UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/425,592	10/22/1999	HONG HEATHER YU	9432-000084	9761

7590   04/14/2004

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EXAMINER
HEWITT II, CALVIN L

ART UNIT	PAPER NUMBER
3621	

DATE MAILED: 04/14/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *21 January 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☐ Claim(s) *8,10-15,17,18,21 and 22* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *8,10-15,17,18,21 and 22* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)
2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5)☐ Notice of Informal Patent Application (PTO-152)
6)☐ Other: _____.

Status of Claims

1.   Claims 8, 10-15, 17-18 and 21-22.

Response to Amendments/Arguments

2.   The Applicant has added claims 21 and 22. The Examiner recommends

that the subject matter from these claims along with their mathematical

definitions (Specification, page/line 8/1-9/15) be moved up into their respective

independent claims (8 and 15, respectively). Further, claims 8 and 15, should

also be amended to show how the inclusion of the subject matter from claims 21

and 22, affects how the claimed process steps are to be performed to achieve

the utility of the invention (non-functional vs. functional data). Otherwise, the

"singular points" and "maskee points" are mere storage.

Claim Rejections - 35 USC § 103

3.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for

all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set
forth in section 102 of this title, if the differences between the subject matter sought to be patented and
the prior art are such that the subject matter as a whole would have been obvious at the time the
invention was made to a person having ordinary skill in the art to which said subject matter pertains.
Patentability shall not be negatived by the manner in which the invention was made.

4.   Claims 8, 10-15, 17-18 and 21-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moskowitz et al., U.S. Patent No. 5,745,569 in view of Leighton et al., U.S. Patent No. 5,949,885, Rhoads, U.S. Patent No. 6,311,214 and Barton, U.S. Patent No. 6,047,374.

As per claims 8, 12-15, and 17-18, Moskowitz et al. ('569) teach a system for securing content using digital watermarks (abstract; column/line 5/19-6/67) comprising:

- providing active hidden data comprising executable machine instructions (abstract; column 2, lines 1-20; column 4, lines 56-67)

- embedding hidden data into a host signal (column 2, lines 10-14; column 5, lines 19-39; column/line 8/56-9/4)

- transferring the embedded data signal from a content provider device to a player device (column 7, lines 1-21; column/line 8/56-9/4)

- extracting and executing the control and hidden data on the player device (column/line 5/40-6/67; column 7, lines 1-21; column/line 8/56-9/4)

- providing hidden data and control data, embedding control data prior to transmitting hidden data and using the control data to ensure errorless extractability of the active hidden data prior to executing the hidden data on the player device (column 5, lines 40-67; column 6, lines 38-67)

- securing digital content using encrypted watermarking to hide code resources that are essential to the proper function of an application (column 2, lines 1-20; column 4, lines 34-67; column/line 5/40-6/22)

- authentication data for authenticating data prior to extracting active hidden data (column 6, lines 8-67)

Moskowitz et al. also disclose a player device: with a decoder for extracting control data and an active bit stream, a correction module that uses control data and the active bit stream to ensure errorless extractability of the active bit stream, for accessing the encrypted digital watermark and executing the active bit stream (abstract; column 6, lines 36-67; column 7, lines 1-21; column 8, lines 1-19; column/line 8/56-9/4). Moskowitz et al. ('569) do not explicitly recite orthogonal signals and domains, and spectrum domains. Nor do Moskowitz et al. explicitly recite error-correction. Leighton et al. apply orthogonal signals and embedding watermarks using spectrum domain schemes (e.g. DCT) to digital content authentication (column 5, lines 39-57; column 10, lines 44-51) while Rhoads teaches encoding watermarks in digital music (column/line 51/6-53/43). In particular, Rhoads teaches an embedded data stream where active hidden data is orthogonal to control data (column 52, lines 15-21). Regarding error correction, Barton teaches error correcting code for securing digital content (column 1, lines 25-33; column 4, lines 21-41; column/line 5/66-6/14; column 7, lines 27-32; column 11, lines 22-26) and applies an error correction algorithm to a watermark

for authenticated digital content (figure 2; column 4, lines 54-67; column/line 7/55-8/27). Barton also teaches using authentication data embedded in digital content for authenticating content prior to extracting (column/line 5/50-6/54). Newly added claims 21 and 22 are directed to the physical placement of the control and hidden data in a data stream. However, these concepts are old and well known to those of ordinary skill of signal processing. Further, as Moskowitz et al. teach placing control and hidden data in a data stream it would have been obvious to one of ordinary skill to place said data anywhere in the data stream. Therefore, it would have been obvious to one of ordinary skill of the art to combine the systems of Moskowitz et al., Leighton et al., Rhoads and Barton. Moskowitz et al. direct their system to embedding digital watermarks with license information ('569, abstract) therefore, it would have been obvious to encode updated license data such as "copy never" in a domain orthogonal to the domain of the first watermark (or content data) so that it will be detectable in the continued presence of the first watermark (or content data) ('214, column 52, lines 13-21). Also, by applying the perpetual watermarking technique of Leighton et al. ('885, abstract) illicit copies and copier can be detected even if multiple persons combined to create the illicit copy. Recall, Moskowitz et al. teach hiding code resources that are essential to the proper function of an application (column 2, lines 1-20; column 4, lines 34-67; column/line 5/40-6/22). Therefore, it would

have been obvious implement the stegacipher of Moskowitz et al. ('569, column 5, lines 40-67) comprising error-correction code ('569, column 9, lines 8-17) in order to prevent users from enjoying an unauthorized but fully functional, error-free end-product or identifying changes in content ('374, column 4, lines 21-41; column 11, lines 22-26).

As per claims 10 and 11, Moskowitz et al. teach securing digital content using encrypted watermarking to hide code resources that are essential to the proper function of an application (column 2, lines 1-20; column 4, lines 34-67; column/line 5/40-6/22) and Barton teaches error correcting code for securing digital content (figure 2; column 1, lines 25-33; column 4, lines 21-41; column/line 5/66-6/14; column 11, lines 22-26). Neither reference explicitly recites orthogonal signals and domains, and spectrum domains. Leighton et al. apply orthogonal signals and spectrum domain analysis to digital watermarking (column 5, lines 39-57; column 10, lines 44-51) while Rhoads teaches encoding watermarks in digital music (column/line 51/6-53/43). Therefore, it would have been obvious to one of ordinary skill of the art to combine the systems of Moskowitz et al., Barton, Leighton et al. and Rhoads. Both Moskowitz et al. and Barton teach methods for embedding digital watermarks with content-related information ('569, abstract; '374, figure 2) therefore, it would have been obvious to encode updated content data such as "copy never" in a domain orthogonal to the domain of the first watermark (or content data) so that it ["copy never" message] will be detectable

in the continued presence of the first watermark (or content data) ('214, column 52, lines 13-21). Also, by applying the perpetual watermarking technique of Leighton et al. ('885, abstract) illicit copies and copier can be detected even if multiple persons combined to create the illicit copy ('885, column 2, lines 13-22).

Conclusion

5.   The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

- Digital watermarking of audio signals using a psychoacoustic auditory model and spread spectrum theory- Ricardo Garcia

6.   Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Calvin Loyd Hewitt II whose telephone number is (703) 308-8057. The Examiner can normally be reached on Monday-Friday from 8:30 AM-5:00 PM.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, James P. Trammell, can be reached at (703) 305-9768.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

c/o Technology Center 2100

Washington, D.C. 20231

or faxed to:

(703) 305-7687 (for formal communications intended for entry and
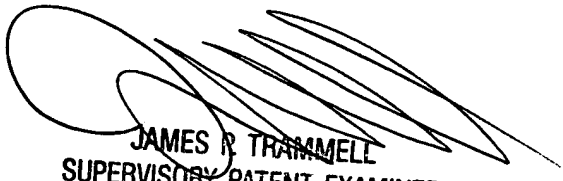
after-final communications),

or:

(703) 746-5532 (for informal or draft communications, please label

"PROPOSED" or "DRAFT")

Hand-delivered responses should be brought to Crystal Park 5, 2451

Crystal Drive, 7th Floor Receptionist.

Any inquiry of a general nature or relating to the status of this application

should be directed to the Group receptionist whose telephone number is (703)

308-1113.

Calvin Loyd Hewitt II

August 19, 2003

JAMES R TRAMMELL
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3600